Washington State Department of Health

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West Nile Virus Newsletter

This is an electronic publication designed to keep you informed on issues of interest related to West Nile virus (WNV) in Washington, and provide current information to assist you in developing a response plan to WNV in your jurisdiction.

Surveillance News

Mosquito surveillance continues to provide valuable information on the species of Washington. To date 19 counties have submitted specimens for identification, and species previously not identified in nine of those counties have been found. The new findings include potential West Nile vectors such as *Culex tarsalis* and *Culex pipiens*. This years data has also shown an expanded range for *Ochlerotatus japonicus*, discovered in Washington for the first time in 2001 in King County. It has now been identified in Snohomish and Pierce counties. A project is currently underway to further define the range of this species in Western Washington. Updating mosquito species information not only helps in prevention and control activities related to WNV, but also provides valuable information on the distribution of vector species for other diseases that may occur in the future.

Officials from the Centers for Disease Control and Prevention in Atlanta said on Tuesday, July 15 that WNV has spread more quickly than last year since resurfacing this summer. The virus has been detected in mosquitoes, birds, horses, and humans in 32 states while in 2002 at this time only 20 states had reported positive findings. A full transcript with further details is available at: http://www.cdc.gov/od/oc/media.

Mosquito Focus – *Ochlerotatus japonicus*

Ochlerotatus japonicus is an Asian species of mosquito generally found in Japan, Korea, Taiwan, South China, and Hong Kong. It was first discovered in the U.S. in 1998 in New York and New Jersey. The first finding west of the Mississippi was in King County, Washington in 2001 and later in Pierce and Snohomish counties. Larvae of the species are found in a wide variety of natural and artificial containers with preferred sites being shaded and rich in organic matter. Eggs are resistant to desiccation and may survive several months under dry conditions. The species can also overwinter in the larval stage.

Adults rest in wooded areas and prefer to bite during the daytime. They feed readily on birds and small mammals as well as man. *Ochlerotatus japonicus* has been shown to be a competent

experimental vector of WNV. Habitat reduction around the home is important in reducing populations of this potential vector species.

Local Health Focus – Benton-Franklin Health District

The Benton-Franklin Health District (BFHD) seriously geared up to educate citizens in the district on WNV in the fall of 2002. A timeline was created to orchestrate our actions, beginning in November 2002 with education for horse owners on WNV vaccination. In accordance with the timeline, spring 2003 was to begin with public education for mosquito habitat awareness and removal. Summer and fall 2003 were slotted for public education on mosquito bite prevention. The timeline was amended in mid-May when a Franklin County man was evaluated for suspect WNV infection.

This case, though *too early* in the season, with *too young* a victim, with *no known* mosquito contact, and in an area *void* of the anticipated first indicator (positive birds) had the classic symptoms of an encephalitis. Local laboratory tests were flavivirus positive, and serum was sent for additional testing. On May 30, 2003, a news release of the suspect case was released by the Washington State Department of Health from the BFHD Kennewick office.

Early results from CDC have indicated probable St. Louis Encephalitis (SLE) rather than WNV. Initial testing has not been conclusive; additional blood has recently been sent to CDC for continued testing. Unfortunately, this probable case of SLE seems to have caused an increased level of complacency in our community.

On June 11, 2003, DOH delivered several mosquito trapping kits and training to the department. Initial trappings (at health district employee property) proved successful. Unfortunately, it also proved the need to enhance education efforts—we found a few tires with standing water from which we collected larvae. Larval growth proved tricky in the breeders—development time from larval to pupal stage seemed to improve when the larvae were fed.

There are active community and business members in our district, as well as an eager Public Health Preparedness Program (Region eight) able to coordinate regular planning sessions. The members include private and Washington State Department of Agriculture veterinarians, WSU Cooperative Extension, the Benton County Mosquito Control District, city and county representatives, Audubon Society, Army Corps of Engineers, the Department of Fish and Wildlife, and our local media. This group, along with an excellent health reporter at the local paper, has helped promote a consistent message that is delivered in numerous arenas.

Education efforts include production of brochures on WNV prevention for humans and horses (both available in English and Spanish) and a brochure on repellent use (available in regular and large font). Four Mosquito Information Displays (with 3D mosquitoes and bird baths) were put in library display cases, and a fifth display for traveling presentations. A life-size mosquito costume (one size fits all!) provides a light-hearted approach to education on a serious illness.

The department has also prepared and delivered numerous presentations to various audiences. Also, provided multi-lingual leaflets for distribution by the public utility departments, schools, and hospitals, created a mosquito/WNV educational game for use at events, printed “Fight the Bite” pencils, a “dead bird reporting phone line” and expanded our Web page. Over

150 dead bird calls have been received and 21 birds have been sent to Washington Animal Disease Diagnostic Laboratory for testing. Due to the heat in the area (as well as avid game hunters), many of the birds collected prove unsuitable for submission.

For information on our Fight the Bite Program, please contact susans@bfhd.wa.gov, or (509) 582-7761, extension 258.

Communicable Disease Epidemiology Update

Between January 1 and July 14, 2003, the Washington State Department of Health, Public Health Laboratories, tested 17 individuals from eleven counties for suspected WNV infection. Fourteen of the 17 (82%) were hospitalized, and three were identified by commercial laboratory testing. Onset dates ranged from January 31 to June 18, 2003. All tests have been negative for acute WNV infection and two patients had evidence of old flavivirus infections by commercial laboratory testing (IgG antibodies detected in serum or cerebrospinal fluid).

As of July 15, 2003, five human cases of WNV infection have been confirmed nationwide. The first human case reported in 2003 was a 70 year-old resident of South Carolina who reported being bitten by mosquitoes in late May while fishing. He was hospitalized with meningoencephalitis and has recovered. The additional cases in Texas and one in Alabama have also been confirmed. It is expected that August and September will be peak months for human cases in the U.S.

A concurrent outbreak of mosquito-borne Eastern Equine Encephalitis (EEE) is ongoing in the Southeastern U.S. So far, more than 150 horses (up to 82% fatality), 39 emus (all fatal), and one human fatality have been reported. EEE is recognized in eastern and north central U.S. and is caused by an alphavirus. Western Equine Encephalitis (WEE, also an alphavirus) is found in the western and central states, including Washington. There is a vaccine to protect horses against EEE and WEE.

Acute Flaccid Paralysis and West Nile Virus Infection

A recent article in Emerging Infectious Diseases describes the clinical presentations of seven patients who were identified with a polio-like syndrome due to WNV infection. This syndrome has been recognized historically in association with flaviviral infections on a very infrequent basis; however, a cluster last year in Mississippi and Louisiana revealed that it might be occurring more commonly in the ongoing WNV epidemic. The article is available at: http://www.cdc.gov/ncidod/EID/vol9no7/pdfs/Vol9No7.pdf.

Insecticide Related Illness Associated with Mosquito Control Efforts

The July 11, 2003 edition of Morbidity and Mortality Weekly Report published by CDC contains an article summarizing investigations of illnesses associated with exposures to pesticides used for mosquito control. Nine states, including Washington, participated in the investigations that found application of certain insecticides posed a low risk for acute, temporary health effects among persons in areas that were sprayed and among workers handling and applying insecticides. The report contains recommendations for reducing the risk of negative health effects from pesticide applications and is available at: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5227a1.htm

West Nile Virus and Wildlife Health Workshop

A WNV and Wildlife Health Workshop, hosted by the Smithsonian Institution, National Audubon Society, U.S. Geological Survey, and U.S. Department of Agriculture, was held February 5-7, 2003 in Maryland. The main focus of the conference was the present and future impact of WNV on wildlife populations. Discussions emphasized how basic research, public health, and land management can contribute to our understanding of the disease's impact and spread. A conference summary is available at: http://www.cdc.gov/ncidod/eid/vol9no7/03-0277.htm.

Article Submission

We are interested in receiving articles for future publications of the WNV newsletter. Please submit articles to Jack Lilja, jack.lilja@doh.wa.gov.

Community Comments

Let us hear your comments on this newsletter, your needs, or things you would like to see, by sending them to Maryanne Guichard, (360) 236-3391 or maryanne.guichard@doh.wa.gov.

WNV Web Resources

Washington State Department of Health www.doh.wa.gov/wnv
Center for Disease Control http://www.cdc.gov/ncidod/dvbid/westnile/
Washington State University Cooperative Extention http://wnv.wsu.edu/
Cornell University, Center for Environment http://www.cfe.cornell.edu/erap/WNV

DOH Contact List for West Nile Virus

General Public Toll-Free Hotline 1-866-78VIRUS

Publications: Brochures/Response Plan/Fact Sheets
Laura Harper, (360) 236-3380, or laura.harper@doh.wa.gov.

Surveillance: Mosquito
Jo Marie Brauner, (360) 236-3064, or jomarie.brauner@doh.wa.gov.

Surveillance: Dead bird surveillance and general WNV response
Tom Gibbs, (360) 236-3060, or tom.gibbs@doh.wa.gov.

Surveillance: Horses, case reporting, laboratory assistance
Dr. John Grendon, (360) 236-3362, or john.grendon@doh.wa.gov.

NPDES: Training, technical assistance
Ben Hamilton, (360) 236-3364, or benjamin.hamilton@doh.wa.gov.

WNV in Humans: Clinical information, case reporting, and laboratory testing
Call your local health jurisdiction or DOH Communicable Disease Epidemiology, (206) 361-2914 or (877) 539-4344.

Assistance with news releases and media response
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